

R50A533



**WASTE MANAGEMENT OF HAWAII**  
92-460 Farrington Highway  
Kapolei, Hawaii 96707  
(808) 668-2985

MK

April 22, 2014

**VIA U.S. MAIL & E-MAIL**

U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105  
Attn: Lawrence Torres (WTR-7)

Hawaii Department of Health  
Clean Water Branch  
P.O. Box 3378  
Honolulu, HI 96801-3378  
Attn: Mike Tsuji

2014 APR 24 12:58PM

**RE: Issuance of Findings of Violation and Order for Compliance for Waimanalo  
Gulch Sanitary Landfill – CWA-309(a)-12-003  
Monthly Report of Stormwater Sampling and Analysis – March 2014**

Dear Sirs:

Pursuant to Paragraph 15 of the November 29, 2011, Finding of Violation and Order (“Order”) in the above referenced matter, Waste Management of Hawaii, Inc. (“WMH”) is hereby submitting its monthly report for **March 2014** of all sampling and analysis required by Paragraphs 12-14. The following table summarizes the information required:

Dates of discharges from WGSL or the detention basin	Did representative sampling and analysis of the discharges occur?	Analytical report attached?
March 8, 2014	Yes	Yes

I certify under penalty of law that this document and all attachments (if any) were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Sincerely,  
  
Joseph R. Whelan  
General Manager

cc: via e-mail only  
David Wampler – EPA Region 9  
Dana Viola – City & County of Honolulu  
File

## ANALYTICAL REPORT

Job Number: 280-52954-1

Job Description: 995|Waimanalo Gulch LF

2014 APR 24 12:58PM

For:

Waste Management  
Waimanalo Gulch Landfill  
92-460 Farrington Highway  
Kapolei, HI 96707

Attention: Mr. Justin Lottig



Approved for release.  
Betsy A. Sara  
Project Manager II  
4/3/2014 9:42 AM

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Betsy A. Sara, Project Manager II  
4955 Yarrow Street, Arvada, CO, 80002  
(303)736-0189  
[betsy.sara@testamericainc.com](mailto:betsy.sara@testamericainc.com)  
04/03/2014

cc: Mr. Mark Hofferbert  
Ms. Margie Thach

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is E87667.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

**TestAmerica Laboratories, Inc.**

TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002  
Tel (303) 736-0100 Fax (303) 431-7171 [www.testamericainc.com](http://www.testamericainc.com)



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## CASE NARRATIVE

**Client: Waste Management**

**Project: 995|Waimanalo Gulch LF**

**Report Number: 280-52954-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

This report may include reporting limits (RLs) less than TestAmerica's standard reporting limit. The reported sample results and associated reporting limits are being used specifically to meet the needs of this project. Note that data are not normally reported to these levels without qualification because they are inherently less reliable and potentially less defensible than required by the latest industry standards.

### **Sample Receiving**

The sample was received on 03/12/2014; the sample arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 2.3 C.

### **Holding Times**

All holding times were met.

### **Method Blanks**

Total Zinc Method 200.7 was detected in the Method Blank below the project established reporting limit. No corrective action is taken for any values in Method Blanks that are below the requested reporting limits. The Method Blank data are included at the end of this report.

All other Method Blanks were within established control limits.

### **Laboratory Control Samples (LCS)**

The Method 625 laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) recovered below the lower control limit for 2-Chloronaphthalene at 53% and 59% (control limits 60%-118%). Because 2-Chloronaphthalene was not a target compound, re-extraction and reanalysis were not performed.

All other Laboratory Control Samples were within established control limits.

### **Matrix Spike (MS) and Matrix Spike Duplicate (MSD)**

The method required MS/MSD could not be performed for Method 625 and Method 1664A due to insufficient sample volume, however, LCS/LCSD pairs were analyzed to demonstrate method precision and accuracy.

The Matrix Spikes and Matrix Spike Duplicates performed on samples from other clients exhibited MS and/or MSD recoveries outside control limits for Ammonia Method 350.1 and Total Kjeldahl Nitrogen (TKN) Method 351.2. Because the corresponding Laboratory Control Samples and the Method Blank samples were within control limits, these anomalies may be due to matrix interference and no corrective action was taken.

All other MS and MSD samples were within established control limits.

### **General Comments**

For samples requiring analysis at a dilution, the dilution factor has been multiplied by the Method Detection Limit (MDL) for each analyte and evaluated versus the project-specific reporting limit (PSRL). If the obtained value is below the PSRL, then the PSRL is preserved as the reporting limit for the diluted result, otherwise, the obtained value becomes the reporting limit. This is done in order to maintain the PSRL to meet permit requirements at the request of the client and to report the lowest possible RL for each analyte.

The analysis for Biochemical Oxygen Demand (BOD) was performed by TestAmerica Honolulu. Their address and phone number are:  
TestAmerica Honolulu  
1946 Young Street  
Suite 400A  
Honolulu, HI 96826

Phone: 808.486.5227

The analysis for Hexavalent Chromium was performed at TestAmerica's Irvine facility.

TestAmerica Irvine

17461 Derian Avenue

Suite 100

Irvine, CA 92614

Phone: 949.261.1022

## EXECUTIVE SUMMARY - Detections

Client: Waste Management

Job Number: 280-52954-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-52954-1	WGSL-DB01E					
Mercury		0.000054	J	0.00020	mg/L	245.1
Field pH		7.81			SU	Field Sampling
Ammonia		0.070	J	0.10	mg/L	350.1
Nitrogen, Kjeldahl		0.59		0.50	mg/L	351.2
Nitrate Nitrite as N		8.3		0.10	mg/L	353.2
Phosphorus, Total		0.12		0.050	mg/L	365.1
Chemical Oxygen Demand		26		20	mg/L	410.4
Total Suspended Solids		3.2	J	4.0	mg/L	SM 2540D
Nitrogen, Total		8.9		0.10	mg/L	Total Nitrogen
<i>Dissolved</i>						
Chromium, hexavalent		2.8		1.0	ug/L	218.6
<i>Total Recoverable</i>						
Cadmium		0.00090	J	0.0050	mg/L	200.7 Rev 4.4
Iron		0.077	J	0.10	mg/L	200.7 Rev 4.4
Zinc		0.024	B	0.020	mg/L	200.7 Rev 4.4

## METHOD SUMMARY

Client: Waste Management

Job Number: 280-52954-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
Semivolatile Organic Compounds (GC/MS)	TAL DEN	40CFR136A 625	
Liquid-Liquid Extraction	TAL DEN	40CFR136A 625	
Metals (ICP)	TAL DEN	EPA 200.7 Rev 4.4	
Preparation, Total Recoverable Metals	TAL DEN		EPA 200.7
Mercury (CVAA)	TAL DEN	EPA 245.1	
Preparation, Mercury	TAL DEN		EPA 245.1
HEM and SGT-HEM	TAL DEN	1664A 1664A	
HEM and SGT-HEM (SPE)	TAL DEN		1664A 1664A
Nitrogen, Ammonia	TAL DEN	MCAWW 350.1	
Nitrogen, Total Kjeldahl	TAL DEN	MCAWW 351.2	
Nitrogen, Total Kjeldahl	TAL DEN		MCAWW 351.2
Nitrogen, Nitrate-Nitrite	TAL DEN	MCAWW 353.2	
Phosphorus, Total	TAL DEN	EPA 365.1	
Phosphorus, Total	TAL DEN		MCAWW 365.2/365.3/365
COD	TAL DEN	MCAWW 410.4	
Solids, Total Suspended (TSS)	TAL DEN	SM SM 2540D	
Nitrogen, Total	TAL DEN	EPA Total Nitrogen	
Field Sampling	TAL DEN	EPA Field Sampling	
General Sub Contract Method	TAL HON	Subcontract	
Chromium, Hexavalent (Ion Chromatography)	TAL IRV	EPA 218.6	
Sample Filtration, Field			FIELD_FLTRD

**Lab References:**

TAL DEN = TestAmerica Denver

TAL HON = TestAmerica Honolulu

TAL IRV = TestAmerica Irvine

**Method References:**

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

## METHOD / ANALYST SUMMARY

Client: Waste Management

Job Number: 280-52954-1

Method	Analyst	Analyst ID
40CFR136A 625	Hoffman, Michael G	MGH
EPA 200.7 Rev 4.4	Harre, John K	JKH
EPA 245.1	Broander, Laura L	LLB
EPA Field Sampling	Promduang, Thaweesin	TP
1664A 1664A	Benson, Alex F	AFB
MCAWW 350.1	Hoefler, Alexandra F	AFH
MCAWW 351.2	Woolley, Mark -	MW1
MCAWW 353.2	Ayala, Delaina V	DVA
EPA 365.1	Schwemin, Andrew J	AJS
MCAWW 410.4	Jewell, Connie C	CCJ
SM SM 2540D	Woolley, Mark -	MW1
EPA Total Nitrogen	Sullivan, Roxanne K	RKS
EPA 218.6	Nikbakht-Sangari, Maryam	MN

## **SAMPLE SUMMARY**

Client: Waste Management

Job Number: 280-52954-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
280-52954-1	W GSL-DB01E	Water	03/08/2014 1017	03/12/2014 0950

# **SAMPLE RESULTS**

**Analytical Data**

Client: Waste Management

Job Number: 280-52954-1

Client Sample ID: **WGSL-DB01E**Lab Sample ID: **280-52954-1**

Date Sampled: 03/08/2014 1017

Client Matrix: Water

Date Received: 03/12/2014 0950

**625 Semivolatile Organic Compounds (GC/MS)**

Analysis Method:	625	Analysis Batch:	280-217279	Instrument ID:	SMS_Y
Prep Method:	625	Prep Batch:	280-216713	Lab File ID:	Y9431.D
Dilution:	1.0			Initial Weight/Volume:	1051.1 mL
Analysis Date:	03/18/2014 2132			Final Weight/Volume:	1 mL
Prep Date:	03/13/2014 1317			Injection Volume:	0.5 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Alpha-Terpineol	ND		0.0019	0.010
Benzoic acid	ND		0.0095	0.050
p-Cresol	ND		0.00024	0.010
Pentachlorophenol	ND		0.019	0.060
Phenol	ND		0.0019	0.010
Surrogate	%Rec	Qualifier	Acceptance Limits	
2,4,6-Tribromophenol	87		50 - 120	
2-Fluorobiphenyl	80		36 - 120	
2-Fluorophenol	86		30 - 120	
Nitrobenzene-d5	86		45 - 120	
Phenol-d5	90		36 - 120	
Terphenyl-d14	41		41 - 120	

**Analytical Data**

Client: Waste Management

Job Number: 280-52954-1

Client Sample ID: **WGSL-DB01E**Lab Sample ID: **280-52954-1**

Date Sampled: 03/08/2014 1017

Client Matrix: **Water**

Date Received: 03/12/2014 0950

**218.6 Chromium, Hexavalent (Ion Chromatography)-Dissolved**

Analysis Method:	218.6 N/A	Analysis Batch:	440-169778 Prep Batch: N/A	Instrument ID:	IC-22
Dilution:	1.0			Lab File ID:	440-0037824-011.d
Analysis Date:	03/17/2014 2150			Initial Weight/Volume:	10 mL
Prep Date:	N/A			Final Weight/Volume:	
				Injection Volume:	1000 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chromium, hexavalent	2.8		0.25	1.0

## Analytical Data

Client: Waste Management

Job Number: 280-52954-1

Client Sample ID: W GSL-DB01E

Lab Sample ID: 280-52954-1

Date Sampled: 03/08/2014 1017

Client Matrix: Water

Date Received: 03/12/2014 0950

### 200.7 Rev 4.4 Metals (ICP)-Total Recoverable

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	280-217080	Instrument ID:	MT_025
Prep Method:	200.7	Prep Batch:	280-216611	Lab File ID:	25A4031414.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	03/15/2014 0506			Final Weight/Volume:	50 mL
Prep Date:	03/13/2014 0700				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Arsenic	ND		0.0044	0.015
Cadmium	0.00090	J	0.00045	0.0050
Iron	0.077	J	0.022	0.10
Lead	ND		0.0026	0.0090
Selenium	ND		0.0049	0.015
Silver	ND		0.00093	0.010

Analysis Method:	200.7 Rev 4.4	Analysis Batch:	280-217243	Instrument ID:	MT_025
Prep Method:	200.7	Prep Batch:	280-216611	Lab File ID:	25B1031714.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	03/17/2014 2046			Final Weight/Volume:	50 mL
Prep Date:	03/13/2014 0700				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Zinc	0.024	B	0.0045	0.020

### 245.1 Mercury (CVAA)

Analysis Method:	245.1	Analysis Batch:	280-216899	Instrument ID:	MT_034
Prep Method:	245.1	Prep Batch:	280-216661	Lab File ID:	140313taa.txt
Dilution:	1.0			Initial Weight/Volume:	30 mL
Analysis Date:	03/13/2014 1703			Final Weight/Volume:	30 mL
Prep Date:	03/13/2014 1140				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	0.000054	J	0.000027	0.00020

**Analytical Data**

Client: Waste Management

Job Number: 280-52954-1

**General Chemistry**

Client Sample ID:	WGSL-DB01E							
Lab Sample ID:	280-52954-1							
Client Matrix:	Water							
Analyte	Result	Qual	Units	MDL	RL	Dil	Method	
HEM	ND		mg/L	1.6	5.0	1.0	1664A	
	Analysis Batch: 280-217298		Analysis Date: 03/18/2014 1358					
	Prep Batch: 280-217255		Prep Date: 03/18/2014 0952					
Ammonia	0.070	J	mg/L	0.022	0.10	1.0	350.1	
	Analysis Batch: 280-216875		Analysis Date: 03/13/2014 1953					
Nitrogen, Kjeldahl	0.59		mg/L	0.18	0.50	1.0	351.2	
	Analysis Batch: 280-217739		Analysis Date: 03/20/2014 2117					
	Prep Batch: 280-217708		Prep Date: 03/19/2014 2230					
Nitrate Nitrite as N	8.3		mg/L	0.019	0.10	1.0	353.2	
	Analysis Batch: 280-217025		Analysis Date: 03/15/2014 1445					
Phosphorus, Total	0.12		mg/L	0.0050	0.050	1.0	365.1	
	Analysis Batch: 280-217889		Analysis Date: 03/21/2014 1300					
	Prep Batch: 280-217650		Prep Date: 03/20/2014 1255					
Chemical Oxygen Demand	26		mg/L	4.1	20	1.0	410.4	
	Analysis Batch: 280-217267		Analysis Date: 03/18/2014 1037					
Total Suspended Solids	3.2	J	mg/L	1.1	4.0	1.0	SM 2540D	
	Analysis Batch: 280-216948		Analysis Date: 03/14/2014 1536					
Nitrogen, Total	8.9		mg/L	0.042	0.10	1.0	Total Nitrogen	
	Analysis Batch: 280-218552		Analysis Date: 03/27/2014 0710					

**Analytical Data**

Client: Waste Management

Job Number: 280-52954-1

**Field Service / Mobile Lab****Client Sample ID:** W GSL-DB01E

Lab Sample ID: 280-52954-1

Date Sampled: 03/08/2014 1017

Client Matrix: Water

Date Received: 03/12/2014 0950

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed	Date Prepared
Field pH	7.81		SU	1.0	Field Sampling	280-216630	03/08/2014 1317	

## DATA REPORTING QUALIFIERS

Client: Waste Management

Job Number: 280-52954-1

Lab Section	Qualifier	Description
GC/MS Semi VOA	*	Recovery or RPD exceeds control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Metals	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry	F1	MS and/or MSD Recovery exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

# **QUALITY CONTROL RESULTS**

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>GC/MS Semi VOA</b>					
<b>Prep Batch: 280-216713</b>					
LCS 280-216713/2-A	Lab Control Sample	T	Water	625	
LCSD 280-216713/3-A	Lab Control Sample Duplicate	T	Water	625	
MB 280-216713/1-A	Method Blank	T	Water	625	
280-52954-1	WGSL-DB01E	T	Water	625	
<b>Analysis Batch: 280-216713</b>					
LCS 280-216713/2-A	Lab Control Sample	T	Water	625	280-216713
LCSD 280-216713/3-A	Lab Control Sample Duplicate	T	Water	625	280-216713
MB 280-216713/1-A	Method Blank	T	Water	625	280-216713
280-52954-1	WGSL-DB01E	T	Water	625	280-216713

Report Basis

T = Total

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>Metals</b>					
<b>Prep Batch: 280-216611</b>					
LCS 280-216611/2-A	Lab Control Sample	R	Water	200.7	
MB 280-216611/1-A	Method Blank	R	Water	200.7	
280-52954-1	WGSL-DB01E	R	Water	200.7	
280-52970-B-1-E MS	Matrix Spike	R	Water	200.7	
280-52970-B-1-F MSD	Matrix Spike Duplicate	R	Water	200.7	
<b>Prep Batch: 280-216661</b>					
LCS 280-216661/2-A	Lab Control Sample	T	Water	245.1	
MB 280-216661/1-A	Method Blank	T	Water	245.1	
280-52954-1	WGSL-DB01E	T	Water	245.1	
280-52970-B-1-K MS	Matrix Spike	T	Water	245.1	
280-52970-B-1-L MSD	Matrix Spike Duplicate	T	Water	245.1	
<b>Analysis Batch:280-216899</b>					
LCS 280-216661/2-A	Lab Control Sample	T	Water	245.1	280-216661
MB 280-216661/1-A	Method Blank	T	Water	245.1	280-216661
280-52954-1	WGSL-DB01E	T	Water	245.1	280-216661
280-52970-B-1-K MS	Matrix Spike	T	Water	245.1	280-216661
280-52970-B-1-L MSD	Matrix Spike Duplicate	T	Water	245.1	280-216661
<b>Analysis Batch:280-217080</b>					
LCS 280-216611/2-A	Lab Control Sample	R	Water	200.7 Rev 4.4	280-216611
MB 280-216611/1-A	Method Blank	R	Water	200.7 Rev 4.4	280-216611
280-52954-1	WGSL-DB01E	R	Water	200.7 Rev 4.4	280-216611
280-52970-B-1-E MS	Matrix Spike	R	Water	200.7 Rev 4.4	280-216611
280-52970-B-1-F MSD	Matrix Spike Duplicate	R	Water	200.7 Rev 4.4	280-216611
<b>Analysis Batch:280-217243</b>					
LCS 280-216611/2-A	Lab Control Sample	R	Water	200.7 Rev 4.4	280-216611
MB 280-216611/1-A	Method Blank	R	Water	200.7 Rev 4.4	280-216611
280-52954-1	WGSL-DB01E	R	Water	200.7 Rev 4.4	280-216611
280-52970-B-1-E MS	Matrix Spike	R	Water	200.7 Rev 4.4	280-216611
280-52970-B-1-F MSD	Matrix Spike Duplicate	R	Water	200.7 Rev 4.4	280-216611

#### Report Basis

R = Total Recoverable

T = Total

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>Field Service / Mobile Lab</b>					
Analysis Batch:280-216630 280-52954-1	WGSL-DB01E	T	Water	Field Sampling	

#### Report Basis

T = Total

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>General Chemistry</b>					
<b>Analysis Batch:280-216875</b>					
LCS 280-216875/19	Lab Control Sample	T	Water	350.1	
LCSD 280-216875/20	Lab Control Sample Duplicate	T	Water	350.1	
MB 280-216875/21	Method Blank	T	Water	350.1	
280-52918-C-8 MS	Matrix Spike	T	Water	350.1	
280-52918-C-8 MSD	Matrix Spike Duplicate	T	Water	350.1	
280-52954-1	WGSL-DB01E	T	Water	350.1	
<b>Analysis Batch:280-216948</b>					
LCS 280-216948/1	Lab Control Sample	T	Water	SM 2540D	
LCSD 280-216948/2	Lab Control Sample Duplicate	T	Water	SM 2540D	
MB 280-216948/3	Method Blank	T	Water	SM 2540D	
280-52954-1	WGSL-DB01E	T	Water	SM 2540D	
280-52954-1DU	Duplicate	T	Water	SM 2540D	
<b>Analysis Batch:280-217025</b>					
280-52954-1	WGSL-DB01E	T	Water	353.2	
<b>Prep Batch: 280-217255</b>					
LCS 280-217255/2-A	Lab Control Sample	T	Water	1664A	
LCSD 280-217255/3-A	Lab Control Sample Duplicate	T	Water	1664A	
MB 280-217255/1-A	Method Blank	T	Water	1664A	
280-52954-1	WGSL-DB01E	T	Water	1664A	
<b>Analysis Batch:280-217267</b>					
LCS 280-217267/3	Lab Control Sample	T	Water	410.4	
LCSD 280-217267/4	Lab Control Sample Duplicate	T	Water	410.4	
MB 280-217267/5	Method Blank	T	Water	410.4	
280-52954-1	WGSL-DB01E	T	Water	410.4	
280-52954-1MS	Matrix Spike	T	Water	410.4	
280-52954-1MSD	Matrix Spike Duplicate	T	Water	410.4	
<b>Analysis Batch:280-217298</b>					
LCS 280-217255/2-A	Lab Control Sample	T	Water	1664A	280-217255
LCSD 280-217255/3-A	Lab Control Sample Duplicate	T	Water	1664A	280-217255
MB 280-217255/1-A	Method Blank	T	Water	1664A	280-217255
280-52954-1	WGSL-DB01E	T	Water	1664A	280-217255
<b>Prep Batch: 280-217650</b>					
LCS 280-217650/3-A	Lab Control Sample	T	Water	365.2/365.3/365	
LCSD 280-217650/4-A	Lab Control Sample Duplicate	T	Water	365.2/365.3/365	
MB 280-217650/5-A	Method Blank	T	Water	365.2/365.3/365	
280-52954-1	WGSL-DB01E	T	Water	365.2/365.3/365	
280-52954-1MS	Matrix Spike	T	Water	365.2/365.3/365	
280-52954-1MSD	Matrix Spike Duplicate	T	Water	365.2/365.3/365	

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>General Chemistry</b>					
<b>Prep Batch: 280-217708</b>					
LCS 280-217708/1-A	Lab Control Sample	T	Water	351.2	
LCSD 280-217708/2-A	Lab Control Sample Duplicate	T	Water	351.2	
MB 280-217708/3-A	Method Blank	T	Water	351.2	
280-52954-1	WGSL-DB01E	T	Water	351.2	
280-53142-C-4-B MS	Matrix Spike	T	Water	351.2	
280-53142-C-4-C MSD	Matrix Spike Duplicate	T	Water	351.2	
<b>Analysis Batch:280-217739</b>					
LCS 280-217708/1-A	Lab Control Sample	T	Water	351.2	280-217708
LCSD 280-217708/2-A	Lab Control Sample Duplicate	T	Water	351.2	280-217708
MB 280-217708/3-A	Method Blank	T	Water	351.2	280-217708
280-52954-1	WGSL-DB01E	T	Water	351.2	280-217708
280-53142-C-4-B MS	Matrix Spike	T	Water	351.2	280-217708
280-53142-C-4-C MSD	Matrix Spike Duplicate	T	Water	351.2	280-217708
<b>Analysis Batch:280-217889</b>					
LCS 280-217650/3-A	Lab Control Sample	T	Water	365.1	280-217650
LCSD 280-217650/4-A	Lab Control Sample Duplicate	T	Water	365.1	280-217650
MB 280-217650/5-A	Method Blank	T	Water	365.1	280-217650
280-52954-1	WGSL-DB01E	T	Water	365.1	280-217650
280-52954-1MS	Matrix Spike	T	Water	365.1	280-217650
280-52954-1MSD	Matrix Spike Duplicate	T	Water	365.1	280-217650
<b>Analysis Batch:280-218552</b>					
MB 280-218552/1	Method Blank	T	Water	Total Nitrogen	
280-52954-1	WGSL-DB01E	T	Water	Total Nitrogen	

#### Report Basis

T = Total

#### HPLC/IC

Analysis Batch:440-169778				
LCS 440-169778/1002	Lab Control Sample	T	Water	218.6
MB 440-169778/1003	Method Blank	T	Water	218.6
280-52954-1	WGSL-DB01E	D	Water	218.6
440-73407-D-11 MS	Matrix Spike	T	Water	218.6
440-73407-D-11 MSD	Matrix Spike Duplicate	T	Water	218.6

#### Report Basis

D = Dissolved

T = Total

TestAmerica Denver

**Quality Control Results**

Client: Waste Management

Job Number: 280-52954-1

**Surrogate Recovery Report****625 Semivolatile Organic Compounds (GC/MS)****Client Matrix: Water**

Lab Sample ID	Client Sample ID	TBP %Rec	FBP %Rec	2FP %Rec	NBZ %Rec	PHL %Rec	TPH %Rec
280-52954-1	WGSL-DB01E	87	80	86	86	90	41
MB 280-216713/1-A		76	76	81	80	84	89
LCS 280-216713/2-A		86	77	87	85	89	90
LCSD 280-216713/3-A		84	76	84	83	87	90

Surrogate	Acceptance Limits
TBP = 2,4,6-Tribromophenol	50-120
FBP = 2-Fluorobiphenyl	36-120
2FP = 2-Fluorophenol	30-120
NBZ = Nitrobenzene-d5	45-120
PHL = Phenol-d5	36-120
TPH = Terphenyl-d14	41-120

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Method Blank - Batch: 280-216713****Method: 625****Preparation: 625**

Lab Sample ID:	MB 280-216713/1-A	Analysis Batch:	280-217279	Instrument ID:	SMS_Y
Client Matrix:	Water	Prep Batch:	280-216713	Lab File ID:	Y9405.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	03/18/2014 0932	Units:	mg/L	Final Weight/Volume:	1 mL
Prep Date:	03/13/2014 1317			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Alpha-Terpineol	ND		0.0020	0.010
Benzoic acid	ND		0.010	0.050
p-Cresol	ND		0.00025	0.010
Pentachlorophenol	ND		0.020	0.060
Phenol	ND		0.0020	0.010
Surrogate	% Rec		Acceptance Limits	
2,4,6-Tribromophenol	76		50 - 120	
2-Fluorobiphenyl	76		36 - 120	
2-Fluorophenol	81		30 - 120	
Nitrobenzene-d5	80		45 - 120	
Phenol-d5	84		36 - 120	
Terphenyl-d14	89		41 - 120	

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 280-216713**

**Method: 625**

**Preparation: 625**

LCS Lab Sample ID:	LCS 280-216713/2-A	Analysis Batch:	280-217279	Instrument ID:	SMS_Y
Client Matrix:	Water	Prep Batch:	280-216713	Lab File ID:	Y9406.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	03/18/2014 1000	Units:	mg/L	Final Weight/Volume:	1 mL
Prep Date:	03/13/2014 1317			Injection Volume:	0.5 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-216713/3-A	Analysis Batch:	280-217279	Instrument ID:	SMS_Y
Client Matrix:	Water	Prep Batch:	280-216713	Lab File ID:	Y9407.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	03/18/2014 1028	Units:	mg/L	Final Weight/Volume:	1 mL
Prep Date:	03/13/2014 1317			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
1,2,4-Trichlorobenzene	47	53	44 - 120	13	35		
1,2-Dichlorobenzene	50	56	32 - 120	11	42		
1,3-Dichlorobenzene	49	54	23 - 120	10	47		
1,4-Dichlorobenzene	49	56	24 - 120	13	49		
2,2'-Oxybis(1-chloropropane)	71	72	37 - 120	2	30		
2,4,6-Trichlorophenol	81	83	51 - 120	3	30		
2,4-Dichlorophenol	83	83	46 - 120	1	30		
2,4-Dimethylphenol	70	69	44 - 119	2	35		
2,4-Dinitrophenol	82	86	20 - 121	6	61		
2,4-Dinitrotoluene	87	89	57 - 120	3	35		
2,6-Dinitrotoluene	84	86	56 - 120	3	30		
2-Chloronaphthalene	53	59	60 - 118	10	30	*	*
2-Chlorophenol	85	84	34 - 120	2	30		
2-Methylphenol	86	84	38 - 120	3	35		
2-Nitrophenol	79	79	47 - 120	1	30		
3,3'-Dichlorobenzidine	40	47	18 - 120	18	50	J	J
4,6-Dinitro-2-methylphenol	90	94	40 - 120	5	55		
4-Bromophenyl phenyl ether	79	79	53 - 120	0	34		
4-Chloro-3-methylphenol	85	84	57 - 120	1	30		
4-Chlorophenyl phenyl ether	73	74	51 - 120	0	30		
4-Nitrophenol	87	89	53 - 120	3	42		
Acenaphthene	65	66	47 - 120	2	30		
Acenaphthylene	62	64	33 - 120	3	30		
Anthracene	83	84	52 - 120	2	30		
Benzidine	27	35	10 - 218	23	50		
Benzo[a]anthracene	87	88	54 - 120	2	30		
Benzo[a]pyrene	83	86	39 - 120	4	73		
Benzo[b]fluoranthene	85	89	51 - 120	5	90		
Benzo[g,h,i]perylene	88	90	48 - 120	2	64		
Benzo[k]fluoranthene	87	92	49 - 120	5	50		
Bis(2-chloroethoxy)methane	84	84	50 - 120	0	30		
Bis(2-chloroethyl)ether	83	81	35 - 120	3	30		
Bis(2-ethylhexyl) phthalate	84	87	56 - 120	2	30		
Butyl benzyl phthalate	85	88	53 - 120	3	30		
Chrysene	86	87	51 - 120	1	30		
Dibenz(a,h)anthracene	87	89	45 - 120	2	78		

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 280-216713**

**Method: 625**

**Preparation: 625**

LCS Lab Sample ID:	LCS 280-216713/2-A	Analysis Batch:	280-217279	Instrument ID:	SMS_Y
Client Matrix:	Water	Prep Batch:	280-216713	Lab File ID:	Y9406.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	03/18/2014 1000	Units:	mg/L	Final Weight/Volume:	1 mL
Prep Date:	03/13/2014 1317			Injection Volume:	0.5 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-216713/3-A	Analysis Batch:	280-217279	Instrument ID:	SMS_Y
Client Matrix:	Water	Prep Batch:	280-216713	Lab File ID:	Y9407.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	03/18/2014 1028	Units:	mg/L	Final Weight/Volume:	1 mL
Prep Date:	03/13/2014 1317			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	% Rec.						
	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Diethyl phthalate	87	89	59 - 114	3	30		
Dimethyl phthalate	85	86	58 - 112	1	30		
Di-n-butyl phthalate	85	88	57 - 118	3	30		
Di-n-octyl phthalate	84	85	56 - 120	1	30		
Fluoranthene	85	88	58 - 120	4	30		
Fluorene	74	76	59 - 120	3	30		
Hexachlorobenzene	81	81	53 - 120	0	30		
Hexachlorobutadiene	45	51	27 - 116	13	41		
Hexachlorocyclopentadiene	22	24	10 - 120	7	82	J	J
Hexachloroethane	45	53	40 - 113	15	52		
Indeno[1,2,3-cd]pyrene	90	86	50 - 120	4	73		
Isophorone	79	80	50 - 120	1	30		
Naphthalene	50	57	37 - 120	13	30		
n-Decane	44	51	28 - 120	16	61		
Nitrobenzene	78	79	46 - 120	1	30		
N-Nitrosodimethylamine	86	85	37 - 120	1	30		
N-Nitrosodi-n-propylamine	83	83	50 - 120	1	30		
N-Nitrosodiphenylamine	83	84	46 - 203	1	50		
p-Cresol	87	85	42 - 120	2	39		
Pentachlorophenol	93	94	46 - 120	1	30		
Phenanthrene	83	86	54 - 120	3	30		
Phenol	91	88	37 - 112	3	30		
Pyrene	86	89	55 - 115	3	30		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
2,4,6-Tribromophenol	86	84			50 - 120		
2-Fluorobiphenyl	77	76			36 - 120		
2-Fluorophenol	87	84			30 - 120		
Nitrobenzene-d5	85	83			45 - 120		
Phenol-d5	89	87			36 - 120		
Terphenyl-d14	90	90			41 - 120		

**Quality Control Results**

Client: Waste Management

Job Number: 280-52954-1

**Laboratory Control/  
Laboratory Duplicate Data Report - Batch: 280-216713****Method: 625  
Preparation: 625**

LCS Lab Sample ID:	LCS 280-216713/2-A	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-216713/3-A
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/18/2014 1000			Analysis Date:	03/18/2014 1028
Prep Date:	03/13/2014 1317			Prep Date:	03/13/2014 1317
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
1,2,4-Trichlorobenzene	0.0800	0.0800	0.0373	0.0424
1,2-Dichlorobenzene	0.0800	0.0800	0.0399	0.0444
1,3-Dichlorobenzene	0.0800	0.0800	0.0392	0.0433
1,4-Dichlorobenzene	0.0800	0.0800	0.0389	0.0445
2,2'-Oxybis(1-chloropropane)	0.0800	0.0800	0.0565	0.0578
2,4,6-Trichlorophenol	0.0800	0.0800	0.0647	0.0668
2,4-Dichlorophenol	0.0800	0.0800	0.0660	0.0665
2,4-Dimethylphenol	0.0800	0.0800	0.0561	0.0551
2,4-Dinitrophenol	0.160	0.160	0.131	0.138
2,4-Dinitrotoluene	0.0800	0.0800	0.0693	0.0712
2,6-Dinitrotoluene	0.0800	0.0800	0.0673	0.0690
2-Chloronaphthalene	0.0800	0.0800	0.0422	*
2-Chlorophenol	0.0800	0.0800	0.0684	0.0670
2-Methylphenol	0.0800	0.0800	0.0689	0.0672
2-Nitrophenol	0.0800	0.0800	0.0628	0.0636
3,3'-Dichlorobenzidine	0.0800	0.0800	0.0317	J
4,6-Dinitro-2-methylphenol	0.160	0.160	0.144	0.151
4-Bromophenyl phenyl ether	0.0800	0.0800	0.0633	0.0634
4-Chloro-3-methylphenol	0.0800	0.0800	0.0680	0.0675
4-Chlorophenyl phenyl ether	0.0800	0.0800	0.0588	0.0588
4-Nitrophenol	0.160	0.160	0.139	0.143
Acenaphthene	0.0800	0.0800	0.0517	0.0527
Acenaphthylene	0.0800	0.0800	0.0500	0.0513
Anthracene	0.0800	0.0800	0.0661	0.0672
Benzidine	0.0800	0.0800	ND	ND
Benzo[a]anthracene	0.0800	0.0800	0.0695	0.0706
Benzo[a]pyrene	0.0800	0.0800	0.0663	0.0688
Benzo[b]fluoranthene	0.0800	0.0800	0.0679	0.0711
Benzo[g,h,i]perylene	0.0800	0.0800	0.0702	0.0718
Benzo[k]fluoranthene	0.0800	0.0800	0.0699	0.0736
Bis(2-chloroethoxy)methane	0.0800	0.0800	0.0673	0.0674
Bis(2-chloroethyl)ether	0.0800	0.0800	0.0665	0.0647
Bis(2-ethylhexyl) phthalate	0.0800	0.0800	0.0675	0.0692
Butyl benzyl phthalate	0.0800	0.0800	0.0679	0.0703
Chrysene	0.0800	0.0800	0.0688	0.0697
Dibenz(a,h)anthracene	0.0800	0.0800	0.0694	0.0709
Diethyl phthalate	0.0800	0.0800	0.0693	0.0711
Dimethyl phthalate	0.0800	0.0800	0.0683	0.0689
Di-n-butyl phthalate	0.0800	0.0800	0.0680	0.0701

**Quality Control Results**

Client: Waste Management

Job Number: 280-52954-1

**Laboratory Control/  
Laboratory Duplicate Data Report - Batch: 280-216713****Method: 625  
Preparation: 625**

LCS Lab Sample ID: LCS 280-216713/2-A      Units: mg/L  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 03/18/2014 1000  
Prep Date: 03/13/2014 1317  
Leach Date: N/A

LCSD Lab Sample ID: LCSD 280-216713/3-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 03/18/2014 1028  
Prep Date: 03/13/2014 1317  
Leach Date: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Di-n-octyl phthalate	0.0800	0.0800	0.0674	0.0682
Fluoranthene	0.0800	0.0800	0.0681	0.0708
Fluorene	0.0800	0.0800	0.0592	0.0608
Hexachlorobenzene	0.0800	0.0800	0.0645	0.0646
Hexachlorobutadiene	0.0800	0.0800	0.0357	0.0406
Hexachlorocyclopentadiene	0.0800	0.0800	0.0177 J	0.0189 J
Hexachloroethane	0.0800	0.0800	0.0362	0.0423
Indeno[1,2,3-cd]pyrene	0.0800	0.0800	0.0723	0.0692
Isophorone	0.0800	0.0800	0.0635	0.0641
Naphthalene	0.0800	0.0800	0.0403	0.0459
n-Decane	0.0800	0.0800	0.0348	0.0409
Nitrobenzene	0.0800	0.0800	0.0627	0.0632
N-Nitrosodimethylamine	0.0800	0.0800	0.0685	0.0679
N-Nitrosodi-n-propylamine	0.0800	0.0800	0.0667	0.0661
N-Nitrosodiphenylamine	0.0800	0.0800	0.0662	0.0671
p-Cresol	0.0800	0.0800	0.0697	0.0681
Pentachlorophenol	0.160	0.160	0.149	0.150
Phenanthrene	0.0800	0.0800	0.0667	0.0690
Phenol	0.0800	0.0800	0.0725	0.0707
Pyrene	0.0800	0.0800	0.0690	0.0713

**Quality Control Results**

Client: Waste Management

Job Number: 280-52954-1

**Method Blank - Batch: 440-169778****Method: 218.6****Preparation: N/A**

Lab Sample ID:	MB 440-169778/1003	Analysis Batch:	440-169778	Instrument ID:	IC-22
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	440-0037824-003-MB.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	03/17/2014 1941	Units:	ug/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1000 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Chromium, hexavalent	ND		0.25	1.0

**Lab Control Sample - Batch: 440-169778****Method: 218.6****Preparation: N/A**

Lab Sample ID:	LCS 440-169778/1002	Analysis Batch:	440-169778	Instrument ID:	IC-22
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	440-0037824-002-LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	03/17/2014 1928	Units:	ug/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1000 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chromium, hexavalent	50.0	51.1	102	90 - 110	

**Method Reporting Limit Check - Batch: 440-169778****Method: 218.6****Preparation: N/A**

Lab Sample ID:	MRL 440-169778/4	Analysis Batch:	440-169778	Instrument ID:	IC-22
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	440-0037824-004.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	03/17/2014 1954	Units:	ug/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1000 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chromium, hexavalent	1.00	1.06	106	50 - 150	

**Quality Control Results**

Client: Waste Management

Job Number: 280-52954-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 440-169778****Method: 218.6****Preparation: N/A**

MS Lab Sample ID:	440-73407-D-11 MS	Analysis Batch:	440-169778	Instrument ID:	IC-22
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	440-0037824-007.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	03/17/2014 2058			Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1000 uL
Leach Date:	N/A				

MSD Lab Sample ID:	440-73407-D-11 MSD	Analysis Batch:	440-169778	Instrument ID:	IC-22
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	440-0037824-008.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	03/17/2014 2111			Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1000 uL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Chromium, hexavalent	101	102	90 - 110	1	10		

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 440-169778****Method: 218.6****Preparation: N/A**

MS Lab Sample ID:	440-73407-D-11 MS	Units:	ug/L	MSD Lab Sample ID:	440-73407-D-11 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/17/2014 2058			Analysis Date:	03/17/2014 2111
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Chromium, hexavalent	7.5	50.0	50.0	58.0	58.7

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Method Blank - Batch: 280-216611**

Lab Sample ID: MB 280-216611/1-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 03/15/2014 0459  
Prep Date: 03/13/2014 0700  
Leach Date: N/A

Analysis Batch: 280-217080  
Prep Batch: 280-216611  
Leach Batch: N/A  
Units: mg/L

**Method: 200.7 Rev 4.4**  
**Preparation: 200.7**  
**Total Recoverable**

Instrument ID: MT\_025  
Lab File ID: 25A4031414.asc  
Initial Weight/Volume: 50 mL  
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Arsenic	ND		0.0044	0.015
Cadmium	ND		0.00045	0.0050
Iron	ND		0.022	0.10
Lead	ND		0.0026	0.0090
Selenium	ND		0.0049	0.015
Silver	ND		0.00093	0.010

**Method Blank - Batch: 280-216611**

Lab Sample ID: MB 280-216611/1-A  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 03/17/2014 2039  
Prep Date: 03/13/2014 0700  
Leach Date: N/A

Analysis Batch: 280-217243  
Prep Batch: 280-216611  
Leach Batch: N/A  
Units: mg/L

**Method: 200.7 Rev 4.4**  
**Preparation: 200.7**  
**Total Recoverable**

Instrument ID: MT\_025  
Lab File ID: 25B1031714.asc  
Initial Weight/Volume: 50 mL  
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Zinc	0.00701	J	0.0045	0.020

**Quality Control Results**

Client: Waste Management

Job Number: 280-52954-1

**Lab Control Sample - Batch: 280-216611****Method: 200.7 Rev 4.4****Preparation: 200.7****Total Recoverable**

Lab Sample ID:	LCS 280-216611/2-A	Analysis Batch:	280-217080	Instrument ID:	MT_025
Client Matrix:	Water	Prep Batch:	280-216611	Lab File ID:	25A4031414.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	03/15/2014 0501	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	03/13/2014 0700				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	1.00	1.03	103	88 - 110	
Cadmium	0.100	0.108	108	88 - 111	
Iron	1.00	0.984	98	89 - 115	
Lead	0.500	0.513	103	89 - 110	
Selenium	2.00	2.08	104	85 - 112	
Silver	0.0500	0.0532	106	85 - 115	

**Lab Control Sample - Batch: 280-216611****Method: 200.7 Rev 4.4****Preparation: 200.7****Total Recoverable**

Lab Sample ID:	LCS 280-216611/2-A	Analysis Batch:	280-217243	Instrument ID:	MT_025
Client Matrix:	Water	Prep Batch:	280-216611	Lab File ID:	25B1031714.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	03/17/2014 2041	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	03/13/2014 0700				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Zinc	0.500	0.516	103	85 - 111	

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

### **Matrix Spike/**

#### **Matrix Spike Duplicate Recovery Report - Batch: 280-216611**

**Method: 200.7 Rev 4.4**

**Preparation: 200.7**

**Total Recoverable**

MS Lab Sample ID:	280-52970-B-1-E MS	Analysis Batch:	280-217080	Instrument ID:	MT_025
Client Matrix:	Water	Prep Batch:	280-216611	Lab File ID:	25A4031414.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	03/15/2014 0513			Final Weight/Volume:	50 mL
Prep Date:	03/13/2014 0700				
Leach Date:	N/A				

MSD Lab Sample ID:	280-52970-B-1-F MSD	Analysis Batch:	280-217080	Instrument ID:	MT_025
Client Matrix:	Water	Prep Batch:	280-216611	Lab File ID:	25A4031414.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	03/15/2014 0515			Final Weight/Volume:	50 mL
Prep Date:	03/13/2014 0700				
Leach Date:	N/A				

Analyte	% Rec.						
	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	106	106	88 - 110	1	20		
Cadmium	108	108	88 - 111	1	20		
Iron	101	103	89 - 115	1	20		
Lead	101	100	89 - 110	1	20		
Selenium	104	103	85 - 112	1	20		
Silver	108	107	85 - 115	1	20		

### **Matrix Spike/**

#### **Matrix Spike Duplicate Recovery Report - Batch: 280-216611**

**Method: 200.7 Rev 4.4**

**Preparation: 200.7**

**Total Recoverable**

MS Lab Sample ID:	280-52970-B-1-E MS	Analysis Batch:	280-217243	Instrument ID:	MT_025
Client Matrix:	Water	Prep Batch:	280-216611	Lab File ID:	25B1031714.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	03/17/2014 2053			Final Weight/Volume:	50 mL
Prep Date:	03/13/2014 0700				
Leach Date:	N/A				

MSD Lab Sample ID:	280-52970-B-1-F MSD	Analysis Batch:	280-217243	Instrument ID:	MT_025
Client Matrix:	Water	Prep Batch:	280-216611	Lab File ID:	25B1031714.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	03/17/2014 2055			Final Weight/Volume:	50 mL
Prep Date:	03/13/2014 0700				
Leach Date:	N/A				

Analyte	% Rec.						
	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Zinc	103	103	85 - 111	0	20		

**Quality Control Results**

Client: Waste Management

Job Number: 280-52954-1

**Matrix Spike/****Matrix Spike Duplicate Recovery Report - Batch: 280-216611**

MS Lab Sample ID: 280-52970-B-1-E MS      Units: mg/L  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 03/15/2014 0513  
Prep Date: 03/13/2014 0700  
Leach Date: N/A

**Method: 200.7 Rev 4.4****Preparation: 200.7****Total Recoverable**

MSD Lab Sample ID: 280-52970-B-1-F MSD  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 03/15/2014 0515  
Prep Date: 03/13/2014 0700  
Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Arsenic	ND	1.00	1.00	1.06	1.06
Cadmium	0.00067 J	0.100	0.100	0.109	0.108
Iron	0.31	1.00	1.00	1.32	1.33
Lead	ND	0.500	0.500	0.503	0.501
Selenium	ND	2.00	2.00	2.07	2.06
Silver	ND	0.0500	0.0500	0.0540	0.0537

**Matrix Spike/****Matrix Spike Duplicate Recovery Report - Batch: 280-216611****Method: 200.7 Rev 4.4****Preparation: 200.7****Total Recoverable**

MS Lab Sample ID: 280-52970-B-1-E MS      Units: mg/L  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 03/17/2014 2053  
Prep Date: 03/13/2014 0700  
Leach Date: N/A

MSD Lab Sample ID: 280-52970-B-1-F MSD  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 03/17/2014 2055  
Prep Date: 03/13/2014 0700  
Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Zinc	0.013 J	0.500	0.500	0.530	0.529

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Method Blank - Batch: 280-216661**
**Method: 245.1**
**Preparation: 245.1**

Lab Sample ID:	MB 280-216661/1-A	Analysis Batch:	280-216899	Instrument ID:	MT_034
Client Matrix:	Water	Prep Batch:	280-216661	Lab File ID:	140313taa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	03/13/2014 1656	Units:	mg/L	Final Weight/Volume:	30 mL
Prep Date:	03/13/2014 1140				
Leach Date:	N/A				

**Analyte**
**Result**
**Qual**
**MDL**
**RL**

Mercury	ND		0.000027	0.00020
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**Lab Control Sample - Batch: 280-216661**
**Method: 245.1**
**Preparation: 245.1**

Lab Sample ID:	LCS 280-216661/2-A	Analysis Batch:	280-216899	Instrument ID:	MT_034
Client Matrix:	Water	Prep Batch:	280-216661	Lab File ID:	140313taa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	03/13/2014 1658	Units:	mg/L	Final Weight/Volume:	30 mL
Prep Date:	03/13/2014 1140				
Leach Date:	N/A				

**Analyte**
**Spike Amount**
**Result**
**% Rec.**
**Limit**
**Qual**

Mercury	0.00500	0.00488	98	90 - 110
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**Matrix Spike/**
**Matrix Spike Duplicate Recovery Report - Batch: 280-216661**
**Method: 245.1**
**Preparation: 245.1**

MS Lab Sample ID:	280-52970-B-1-K MS	Analysis Batch:	280-216899	Instrument ID:	MT_034
Client Matrix:	Water	Prep Batch:	280-216661	Lab File ID:	140313taa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	03/13/2014 1712			Final Weight/Volume:	30 mL
Prep Date:	03/13/2014 1140				
Leach Date:	N/A				

MSD Lab Sample ID:	280-52970-B-1-L MSD	Analysis Batch:	280-216899	Instrument ID:	MT_034
Client Matrix:	Water	Prep Batch:	280-216661	Lab File ID:	140313taa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	03/13/2014 1714			Final Weight/Volume:	30 mL
Prep Date:	03/13/2014 1140				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Mercury	95	91	80 - 120	4	10		

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-216661**

**Method: 245.1  
Preparation: 245.1**

MS Lab Sample ID: 280-52970-B-1-K MS      Units: mg/L  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 03/13/2014 1712  
Prep Date: 03/13/2014 1140  
Leach Date: N/A

MSD Lab Sample ID: 280-52970-B-1-L MSD  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 03/13/2014 1714  
Prep Date: 03/13/2014 1140  
Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Mercury	0.000042 J	0.00500	0.00500	0.00477	0.00459

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Method Blank - Batch: 280-217255****Method: 1664A**  
**Preparation: 1664A**

Lab Sample ID:	MB 280-217255/1-A	Analysis Batch:	280-217298	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	280-217255	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	03/18/2014 1358	Units:	mg/L	Final Weight/Volume:	1000 mL
Prep Date:	03/18/2014 0952				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
HEM	ND		1.6	5.0

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 280-217255****Method: 1664A**  
**Preparation: 1664A**

LCS Lab Sample ID:	LCS 280-217255/2-A	Analysis Batch:	280-217298	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	280-217255	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	03/18/2014 1358	Units:	mg/L	Final Weight/Volume:	1000 mL
Prep Date:	03/18/2014 0952				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-217255/3-A	Analysis Batch:	280-217298	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	280-217255	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	03/18/2014 1358	Units:	mg/L	Final Weight/Volume:	1000 mL
Prep Date:	03/18/2014 0952				
Leach Date:	N/A				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
HEM	86	88	78 - 114	2	18	

**Laboratory Control/  
Laboratory Duplicate Data Report - Batch: 280-217255****Method: 1664A**  
**Preparation: 1664A**

LCS Lab Sample ID:	LCS 280-217255/2-A	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-217255/3-A
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/18/2014 1358			Analysis Date:	03/18/2014 1358
Prep Date:	03/18/2014 0952			Prep Date:	03/18/2014 0952
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
HEM	40.0	40.0	34.5	35.1

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Method Blank - Batch: 280-216875****Method: 350.1****Preparation: N/A**

Lab Sample ID:	MB 280-216875/21	Analysis Batch:	280-216875	Instrument ID:	WC_AlP 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	E:\FLOW_4\031314_.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	03/13/2014 1826	Units:	mg/L	Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Ammonia	ND		0.022	0.10

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 280-216875****Method: 350.1****Preparation: N/A**

LCS Lab Sample ID:	LCS 280-216875/19	Analysis Batch:	280-216875	Instrument ID:	WC_AlP 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	E:\FLOW_4\031314_.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	03/13/2014 1819	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-216875/20	Analysis Batch:	280-216875	Instrument ID:	WC_AlP 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	E:\FLOW_4\031314_.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	03/13/2014 1823	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
Ammonia	104	104	90 - 110	0	10	

**Laboratory Control/  
Laboratory Duplicate Data Report - Batch: 280-216875****Method: 350.1****Preparation: N/A**

LCS Lab Sample ID:	LCS 280-216875/19	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-216875/20
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/13/2014 1819			Analysis Date:	03/13/2014 1823
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Ammonia	2.50	2.50	2.60	2.61

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-216875****Method: 350.1  
Preparation: N/A**

MS Lab Sample ID:	280-52918-C-8 MS	Analysis Batch:	280-216875	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	E:\FLOW_4\031314_.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	03/13/2014 1926			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				
MSD Lab Sample ID:	280-52918-C-8 MSD	Analysis Batch:	280-216875	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	E:\FLOW_4\031314_.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	03/13/2014 1929			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Ammonia	110	111	90 - 110	1	10		F1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-216875****Method: 350.1  
Preparation: N/A**

MS Lab Sample ID:	280-52918-C-8 MS	Units:	mg/L	MSD Lab Sample ID:	280-52918-C-8 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/13/2014 1926			Analysis Date:	03/13/2014 1929
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual
	0.031	J			1.00	1.14	
Ammonia							F1

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Method Blank - Batch: 280-217708****Method: 351.2**  
**Preparation: 351.2**

Lab Sample ID:	MB 280-217708/3-A	Analysis Batch:	280-217739	Instrument ID:	WC_Astoria
Client Matrix:	Water	Prep Batch:	280-217708	Lab File ID:	032014TKN.tab
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	03/20/2014 2109	Units:	mg/L	Final Weight/Volume:	25 mL
Prep Date:	03/19/2014 2230				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrogen, Kjeldahl	ND		0.18	0.50

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 280-217708****Method: 351.2**  
**Preparation: 351.2**

LCS Lab Sample ID:	LCS 280-217708/1-A	Analysis Batch:	280-217739	Instrument ID:	WC_Astoria
Client Matrix:	Water	Prep Batch:	280-217708	Lab File ID:	032014TKN.tab
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	03/20/2014 2107	Units:	mg/L	Final Weight/Volume:	25 mL
Prep Date:	03/19/2014 2230				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-217708/2-A	Analysis Batch:	280-217739	Instrument ID:	WC_Astoria
Client Matrix:	Water	Prep Batch:	280-217708	Lab File ID:	032014TKN.tab
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	03/20/2014 2108	Units:	mg/L	Final Weight/Volume:	25 mL
Prep Date:	03/19/2014 2230				
Leach Date:	N/A				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
Nitrogen, Kjeldahl	99	97	90 - 110	3	25	

**Laboratory Control/  
Laboratory Duplicate Data Report - Batch: 280-217708****Method: 351.2**  
**Preparation: 351.2**

LCS Lab Sample ID:	LCS 280-217708/1-A	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-217708/2-A
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/20/2014 2107			Analysis Date:	03/20/2014 2108
Prep Date:	03/19/2014 2230			Prep Date:	03/19/2014 2230
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Nitrogen, Kjeldahl	6.00	6.00	5.97	5.79

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Matrix Spike/****Matrix Spike Duplicate Recovery Report - Batch: 280-217708****Method: 351.2****Preparation: 351.2**

MS Lab Sample ID:	280-53142-C-4-B MS	Analysis Batch:	280-217739	Instrument ID:	WC_Astoria
Client Matrix:	Water	Prep Batch:	280-217708	Lab File ID:	032014TKN.tab
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	03/20/2014 2112			Final Weight/Volume:	25 mL
Prep Date:	03/19/2014 2230				
Leach Date:	N/A				

MSD Lab Sample ID:	280-53142-C-4-C MSD	Analysis Batch:	280-217739	Instrument ID:	WC_Astoria
Client Matrix:	Water	Prep Batch:	280-217708	Lab File ID:	032014TKN.tab
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	03/20/2014 2113			Final Weight/Volume:	25 mL
Prep Date:	03/19/2014 2230				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Nitrogen, Kjeldahl	82	83	90 - 110	0	25	F1	F1

**Matrix Spike/****Matrix Spike Duplicate Recovery Report - Batch: 280-217708****Method: 351.2****Preparation: 351.2**

MS Lab Sample ID:	280-53142-C-4-B MS	Units:	mg/L	MSD Lab Sample ID:	280-53142-C-4-C MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/20/2014 2112			Analysis Date:	03/20/2014 2113
Prep Date:	03/19/2014 2230			Prep Date:	03/19/2014 2230
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample	MS Spike Amount	MSD Spike Amount	MS		MSD	
	Result/Qual			Result/Qual	Result/Qual	Result/Qual	Result/Qual
Nitrogen, Kjeldahl	0.98	3.00	3.00	3.45	F1	3.45	F1

**Quality Control Results**

Client: Waste Management

Job Number: 280-52954-1

**Method Reporting Limit Check - Batch: 280-217025****Method: 353.2****Preparation: N/A**

Lab Sample ID:	MRL 280-217025/18	Analysis Batch:	280-217025	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\0315NXNQ.R:
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	03/15/2014 1131	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	0.100	0.0957	96	50 - 150	J

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Method Blank - Batch: 280-217650****Method: 365.1****Preparation: 365.2/365.3/365**

Lab Sample ID:	MB 280-217650/5-A	Analysis Batch:	280-217889	Instrument ID:	WC_Konelab
Client Matrix:	Water	Prep Batch:	280-217650	Lab File ID:	032114TPHOS.xls
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	03/21/2014 1300	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	03/20/2014 1255				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Phosphorus, Total	ND		0.0050	0.050

**Lab Control Sample/****Lab Control Sample Duplicate Recovery Report - Batch: 280-217650****Method: 365.1****Preparation: 365.2/365.3/365**

LCS Lab Sample ID:	LCS 280-217650/3-A	Analysis Batch:	280-217889	Instrument ID:	WC_Konelab
Client Matrix:	Water	Prep Batch:	280-217650	Lab File ID:	032114TPHOS.xls
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	03/21/2014 1300	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	03/20/2014 1255				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-217650/4-A	Analysis Batch:	280-217889	Instrument ID:	WC_Konelab
Client Matrix:	Water	Prep Batch:	280-217650	Lab File ID:	032114TPHOS.xls
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	03/21/2014 1300	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	03/20/2014 1255				
Leach Date:	N/A				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
Phosphorus, Total	108	104	90 - 110	3	10	

**Laboratory Control/****Laboratory Duplicate Data Report - Batch: 280-217650****Method: 365.1****Preparation: 365.2/365.3/365**

LCS Lab Sample ID:	LCS 280-217650/3-A	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-217650/4-A
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/21/2014 1300			Analysis Date:	03/21/2014 1300
Prep Date:	03/20/2014 1255			Prep Date:	03/20/2014 1255
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Phosphorus, Total	0.500	0.500	0.540	0.522

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-217650****Method: 365.1  
Preparation: 365.2/365.3/365**

MS Lab Sample ID:	280-52954-1	Analysis Batch:	280-217889	Instrument ID:	WC_Konelab
Client Matrix:	Water	Prep Batch:	280-217650	Lab File ID:	032114TPHOS.xls
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	03/21/2014 1300			Final Weight/Volume:	50 mL
Prep Date:	03/20/2014 1255				
Leach Date:	N/A				

MSD Lab Sample ID:	280-52954-1	Analysis Batch:	280-217889	Instrument ID:	WC_Konelab
Client Matrix:	Water	Prep Batch:	280-217650	Lab File ID:	032114TPHOS.xls
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	03/21/2014 1300			Final Weight/Volume:	50 mL
Prep Date:	03/20/2014 1255				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Phosphorus, Total	102	107	90 - 110	4	10		

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-217650****Method: 365.1  
Preparation: 365.2/365.3/365**

MS Lab Sample ID:	280-52954-1	Units:	mg/L	MSD Lab Sample ID:	280-52954-1
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/21/2014 1300			Analysis Date:	03/21/2014 1300
Prep Date:	03/20/2014 1255			Prep Date:	03/20/2014 1255
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample	MS Spike	MSD Spike	MS	MSD
	Result/Qual	Amount	Amount	Result/Qual	Result/Qual
Phosphorus, Total	0.12	0.500	0.500	0.628	0.652

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Method Blank - Batch: 280-217267****Method: 410.4****Preparation: N/A**

Lab Sample ID:	MB 280-217267/5	Analysis Batch:	280-217267	Instrument ID:	WC_HACH SPEC
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	2 mL
Analysis Date:	03/18/2014 1037	Units:	mg/L	Final Weight/Volume:	2 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Chemical Oxygen Demand	ND		4.1	20

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 280-217267****Method: 410.4****Preparation: N/A**

LCS Lab Sample ID:	LCS 280-217267/3	Analysis Batch:	280-217267	Instrument ID:	WC_HACH SPEC
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	03/18/2014 1037	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-217267/4	Analysis Batch:	280-217267	Instrument ID:	WC_HACH SPEC
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	03/18/2014 1037	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Chemical Oxygen Demand	104	105	90 - 110	1	11		

**Laboratory Control/  
Laboratory Duplicate Data Report - Batch: 280-217267****Method: 410.4****Preparation: N/A**

LCS Lab Sample ID:	LCS 280-217267/3	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-217267/4
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/18/2014 1037			Analysis Date:	03/18/2014 1037
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Chemical Oxygen Demand	100	100	104	105

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-217267****Method: 410.4****Preparation: N/A**

MS Lab Sample ID:	280-52954-1	Analysis Batch:	280-217267	Instrument ID:	WC_HACH SPEC
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	03/18/2014 1037			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-52954-1	Analysis Batch:	280-217267	Instrument ID:	WC_HACH SPEC
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	03/18/2014 1037			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Chemical Oxygen Demand	91	90	90 - 110	1	11		

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-217267****Method: 410.4****Preparation: N/A**

MS Lab Sample ID:	280-52954-1	Units:	mg/L	MSD Lab Sample ID:	280-52954-1
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/18/2014 1037			Analysis Date:	03/18/2014 1037
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Chemical Oxygen Demand	26	50.0	50.0	71.3	70.6

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Method Blank - Batch: 280-216948****Method: SM 2540D****Preparation: N/A**

Lab Sample ID:	MB 280-216948/3	Analysis Batch:	280-216948	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	03/14/2014 1536	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Total Suspended Solids	ND		1.1	4.0

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 280-216948****Method: SM 2540D****Preparation: N/A**

LCS Lab Sample ID:	LCS 280-216948/1	Analysis Batch:	280-216948	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	03/14/2014 1536	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-216948/2	Analysis Batch:	280-216948	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	03/14/2014 1536	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
Total Suspended Solids	89	93	86 - 114	4	20	

**Laboratory Control/  
Laboratory Duplicate Data Report - Batch: 280-216948****Method: SM 2540D****Preparation: N/A**

LCS Lab Sample ID:	LCS 280-216948/1	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-216948/2
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	03/14/2014 1536			Analysis Date:	03/14/2014 1536
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Total Suspended Solids	100	100	89.0	93.0

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

**Duplicate - Batch: 280-216948**

**Method: SM 2540D**

**Preparation: N/A**

Lab Sample ID:	280-52954-1	Analysis Batch:	280-216948	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	03/14/2014 1536	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Suspended Solids	3.2	J	3.20	0	10

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

### Method Blank - Batch: 280-218552

### Method: Total Nitrogen

Preparation: N/A

Lab Sample ID:	MB 280-218552/1	Analysis Batch:	280-218552	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	03/27/2014 0710	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrogen, Total	ND		0.042	0.10

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

### Laboratory Chronicle

Lab ID: 280-52954-1

Client ID: W GSL-DB01E

Sample Date/Time: 03/08/2014 10:17 Received Date/Time: 03/12/2014 09:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:625	280-52954-C-1-A	280-217279	280-216713	03/13/2014 13:17	1	TAL DEN	JJW	
A:625	280-52954-C-1-A	280-217279	280-216713	03/18/2014 21:32	1	TAL DEN	MGH	
A:218.6	280-52954-I-1	440-169778		03/17/2014 21:50	1	TAL IRV	MN	
P:200.7	280-52954-F-1-A	280-217080	280-216611	03/13/2014 07:00	1	TAL DEN	SEJ	
A:200.7 Rev 4.4	280-52954-F-1-A	280-217080	280-216611	03/15/2014 05:06	1	TAL DEN	JKH	
P:200.7	280-52954-F-1-A	280-217243	280-216611	03/13/2014 07:00	1	TAL DEN	SEJ	
A:200.7 Rev 4.4	280-52954-F-1-A	280-217243	280-216611	03/17/2014 20:46	1	TAL DEN	JKH	
P:245.1	280-52954-F-1-B	280-216899	280-216661	03/13/2014 11:40	1	TAL DEN	LLB	
A:245.1	280-52954-F-1-B	280-216899	280-216661	03/13/2014 17:03	1	TAL DEN	LLB	
P:1664A	280-52954-A-1-A	280-217298	280-217255	03/18/2014 09:52	1	TAL DEN	AFB	
A:1664A	280-52954-A-1-A	280-217298	280-217255	03/18/2014 13:58	1	TAL DEN	AFB	
A:350.1	280-52954-H-1	280-216875		03/13/2014 19:53	1	TAL DEN	AFH	
P:351.2	280-52954-H-1-D	280-217739	280-217708	03/19/2014 22:30	1	TAL DEN	MW1	
A:351.2	280-52954-H-1-D	280-217739	280-217708	03/20/2014 21:17	1	TAL DEN	MW1	
A:353.2	280-52954-H-1	280-217025		03/15/2014 14:45	1	TAL DEN	DVA	
P:365.2/365.3/365	280-52954-H-1-A	280-217889	280-217650	03/20/2014 12:55	1	TAL DEN	AJS	
A:365.1	280-52954-H-1-A	280-217889	280-217650	03/21/2014 13:00	1	TAL DEN	AJS	
A:410.4	280-52954-H-1	280-217267		03/18/2014 10:37	1	TAL DEN	CCJ	
A:SM 2540D	280-52954-E-1	280-216948		03/14/2014 15:36	1	TAL DEN	MW1	
A:Total Nitrogen	280-52954-A-1	280-218552		03/27/2014 07:10	1	TAL DEN	RKS	
A:Field Sampling	280-52954-A-1	280-216630		03/08/2014 13:17	1	TAL DEN	TP	

Lab ID: 280-52954-1 MS

Client ID: W GSL-DB01E

Sample Date/Time: 03/08/2014 10:17 Received Date/Time: 03/12/2014 09:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:365.2/365.3/365	280-52954-H-1-B MS	280-217889	280-217650	03/20/2014 12:55	1	TAL DEN	AJS	
A:365.1	280-52954-H-1-B MS	280-217889	280-217650	03/21/2014 13:00	1	TAL DEN	AJS	
A:410.4	280-52954-H-1 MS	280-217267		03/18/2014 10:37	1	TAL DEN	CCJ	

Lab ID: 280-52954-1 MSD

Client ID: W GSL-DB01E

Sample Date/Time: 03/08/2014 10:17 Received Date/Time: 03/12/2014 09:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:365.2/365.3/365	280-52954-H-1-C MSD	280-217889	280-217650	03/20/2014 12:55	1	TAL DEN	AJS	
A:365.1	280-52954-H-1-C MSD	280-217889	280-217650	03/21/2014 13:00	1	TAL DEN	AJS	
A:410.4	280-52954-H-1 MSD	280-217267		03/18/2014 10:37	1	TAL DEN	CCJ	

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

### Laboratory Chronicle

Lab ID: 280-52954-1 DU

Client ID: WGSL-DB01E

Sample Date/Time: 03/08/2014 10:17 Received Date/Time: 03/12/2014 09:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 2540D	280-52954-E-1 DU		280-216948		03/14/2014 15:36	1	TAL DEN	MW1

Lab ID: MB

Client ID: N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:625	MB 280-216713/1-A	280-217279	280-216713	280-216713	03/13/2014 13:17	1	TAL DEN	JJW
A:625	MB 280-216713/1-A	280-217279	280-216713	280-216713	03/18/2014 09:32	1	TAL DEN	MGH
A:218.6	MB 440-169778/1003	440-169778			03/17/2014 19:41	1	TAL IRV	MN
P:200.7	MB 280-216611/1-A	280-217080	280-216611	280-216611	03/13/2014 07:00	1	TAL DEN	SEJ
A:200.7 Rev 4.4	MB 280-216611/1-A	280-217080	280-216611	280-216611	03/15/2014 04:59	1	TAL DEN	JKH
P:200.7	MB 280-216611/1-A	280-217243	280-216611	280-216611	03/13/2014 07:00	1	TAL DEN	SEJ
A:200.7 Rev 4.4	MB 280-216611/1-A	280-217243	280-216611	280-216611	03/17/2014 20:39	1	TAL DEN	JKH
P:245.1	MB 280-216661/1-A	280-216899	280-216661	280-216661	03/13/2014 11:40	1	TAL DEN	LLB
A:245.1	MB 280-216661/1-A	280-216899	280-216661	280-216661	03/13/2014 16:56	1	TAL DEN	LLB
P:1664A	MB 280-217255/1-A	280-217298	280-217255	280-217255	03/18/2014 09:52	1	TAL DEN	AFB
A:1664A	MB 280-217255/1-A	280-217298	280-217255	280-217255	03/18/2014 13:58	1	TAL DEN	AFB
A:350.1	MB 280-216875/21	280-216875			03/13/2014 18:26	1	TAL DEN	AFH
P:351.2	MB 280-217708/3-A	280-217739	280-217708	280-217708	03/19/2014 22:30	1	TAL DEN	MW1
A:351.2	MB 280-217708/3-A	280-217739	280-217708	280-217708	03/20/2014 21:09	1	TAL DEN	MW1
P:365.2/365.3/365.4	MB 280-217650/5-A	280-217889	280-217650	280-217650	03/20/2014 12:55	1	TAL DEN	AJS
A:365.1	MB 280-217650/5-A	280-217889	280-217650	280-217650	03/21/2014 13:00	1	TAL DEN	AJS
A:410.4	MB 280-217267/5	280-217267			03/18/2014 10:37	1	TAL DEN	CCJ
A:SM 2540D	MB 280-216948/3	280-216948			03/14/2014 15:36	1	TAL DEN	MW1
A:Total Nitrogen	MB 280-218552/1	280-218552			03/27/2014 07:10	1	TAL DEN	RKS

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

### Laboratory Chronicle

Lab ID: LCS

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:625	LCS 280-216713/2-A	280-217279	280-216713	03/13/2014 13:17	1	TAL DEN	JJW	
A:625	LCS 280-216713/2-A	280-217279	280-216713	03/18/2014 10:00	1	TAL DEN	MGH	
A:218.6	LCS 440-169778/1002	440-169778			03/17/2014 19:28	1	TAL IRV	MN
P:200.7	LCS 280-216611/2-A	280-217080	280-216611	03/13/2014 07:00	1	TAL DEN	SEJ	
A:200.7 Rev 4.4	LCS 280-216611/2-A	280-217080	280-216611	03/15/2014 05:01	1	TAL DEN	JKH	
P:200.7	LCS 280-216611/2-A	280-217243	280-216611	03/13/2014 07:00	1	TAL DEN	SEJ	
A:200.7 Rev 4.4	LCS 280-216611/2-A	280-217243	280-216611	03/17/2014 20:41	1	TAL DEN	JKH	
P:245.1	LCS 280-216661/2-A	280-216899	280-216661	03/13/2014 11:40	1	TAL DEN	LLB	
A:245.1	LCS 280-216661/2-A	280-216899	280-216661	03/13/2014 16:58	1	TAL DEN	LLB	
P:1664A	LCS 280-217255/2-A	280-217298	280-217255	03/18/2014 09:52	1	TAL DEN	AFB	
A:1664A	LCS 280-217255/2-A	280-217298	280-217255	03/18/2014 13:58	1	TAL DEN	AFB	
A:350.1	LCS 280-216875/19	280-216875			03/13/2014 18:19	1	TAL DEN	AFH
P:351.2	LCS 280-217708/1-A	280-217739	280-217708	03/19/2014 22:30	1	TAL DEN	MW1	
A:351.2	LCS 280-217708/1-A	280-217739	280-217708	03/20/2014 21:07	1	TAL DEN	MW1	
P:365.2/365.3/365	LCS 280-217650/3-A	280-217889	280-217650	03/20/2014 12:55	1	TAL DEN	AJS	
A:365.1	LCS 280-217650/3-A	280-217889	280-217650	03/21/2014 13:00	1	TAL DEN	AJS	
A:410.4	LCS 280-217267/3	280-217267			03/18/2014 10:37	1	TAL DEN	CCJ
A:SM 2540D	LCS 280-216948/1	280-216948			03/14/2014 15:36	1	TAL DEN	MW1

Lab ID: LCSD

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:625	LCSD 280-216713/3-A	280-217279	280-216713	03/13/2014 13:17	1	TAL DEN	JJW	
A:625	LCSD 280-216713/3-A	280-217279	280-216713	03/18/2014 10:28	1	TAL DEN	MGH	
P:1664A	LCSD 280-217255/3-A	280-217298	280-217255	03/18/2014 09:52	1	TAL DEN	AFB	
A:1664A	LCSD 280-217255/3-A	280-217298	280-217255	03/18/2014 13:58	1	TAL DEN	AFB	
A:350.1	LCSD 280-216875/20	280-216875			03/13/2014 18:23	1	TAL DEN	AFH
P:351.2	LCSD 280-217708/2-A	280-217739	280-217708	03/19/2014 22:30	1	TAL DEN	MW1	
A:351.2	LCSD 280-217708/2-A	280-217739	280-217708	03/20/2014 21:08	1	TAL DEN	MW1	
P:365.2/365.3/365	LCSD 280-217650/4-A	280-217889	280-217650	03/20/2014 12:55	1	TAL DEN	AJS	
A:365.1	LCSD 280-217650/4-A	280-217889	280-217650	03/21/2014 13:00	1	TAL DEN	AJS	
A:410.4	LCSD 280-217267/4	280-217267			03/18/2014 10:37	1	TAL DEN	CCJ
A:SM 2540D	LCSD 280-216948/2	280-216948			03/14/2014 15:36	1	TAL DEN	MW1

## Quality Control Results

Client: Waste Management

Job Number: 280-52954-1

### Laboratory Chronicle

Lab ID: MRL

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:218.6	MRL 440-169778/4		440-169778		03/17/2014 19:54	1	TAL IRV	MN
A:353.2	MRL 280-217025/18		280-217025		03/15/2014 11:31	1	TAL DEN	DVA

Lab ID: MS

Client ID: N/A

Sample Date/Time: 03/17/2014 12:45

Received Date/Time: 03/17/2014 17:32

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:218.6	440-73407-D-11 MS		440-169778		03/17/2014 20:58	1	TAL IRV	MN
P:200.7	280-52970-B-1-E MS	280-217080	280-216611	03/13/2014 07:00	1	TAL DEN	SEJ	
A:200.7 Rev 4.4	280-52970-B-1-E MS	280-217080	280-216611	03/15/2014 05:13	1	TAL DEN	JKH	
P:200.7	280-52970-B-1-E MS	280-217243	280-216611	03/13/2014 07:00	1	TAL DEN	SEJ	
A:200.7 Rev 4.4	280-52970-B-1-E MS	280-217243	280-216611	03/17/2014 20:53	1	TAL DEN	JKH	
P:245.1	280-52970-B-1-K MS	280-216899	280-216661	03/13/2014 11:40	1	TAL DEN	LLB	
A:245.1	280-52970-B-1-K MS	280-216899	280-216661	03/13/2014 17:12	1	TAL DEN	LLB	
A:350.1	280-52918-C-8 MS	280-216875			03/13/2014 19:26	1	TAL DEN	AFH
P:351.2	280-53142-C-4-B MS	280-217739	280-217708	03/19/2014 22:30	1	TAL DEN	MW1	
A:351.2	280-53142-C-4-B MS	280-217739	280-217708	03/20/2014 21:12	1	TAL DEN	MW1	

Lab ID: MSD

Client ID: N/A

Sample Date/Time: 03/17/2014 12:45

Received Date/Time: 03/17/2014 17:32

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:218.6	440-73407-D-11 MSD		440-169778		03/17/2014 21:11	1	TAL IRV	MN
P:200.7	280-52970-B-1-F MSD	280-217080	280-216611	03/13/2014 07:00	1	TAL DEN	SEJ	
A:200.7 Rev 4.4	280-52970-B-1-F MSD	280-217080	280-216611	03/15/2014 05:15	1	TAL DEN	JKH	
P:200.7	280-52970-B-1-F MSD	280-217243	280-216611	03/13/2014 07:00	1	TAL DEN	SEJ	
A:200.7 Rev 4.4	280-52970-B-1-F MSD	280-217243	280-216611	03/17/2014 20:55	1	TAL DEN	JKH	
P:245.1	280-52970-B-1-L MSD	280-216899	280-216661	03/13/2014 11:40	1	TAL DEN	LLB	
A:245.1	280-52970-B-1-L MSD	280-216899	280-216661	03/13/2014 17:14	1	TAL DEN	LLB	
A:350.1	280-52918-C-8 MSD	280-216875			03/13/2014 19:29	1	TAL DEN	AFH
P:351.2	280-53142-C-4-C MSD	280-217739	280-217708	03/19/2014 22:30	1	TAL DEN	MW1	
A:351.2	280-53142-C-4-C MSD	280-217739	280-217708	03/20/2014 21:13	1	TAL DEN	MW1	

#### Lab References:

TAL DEN = TestAmerica Denver

TAL IRV = TestAmerica Irvine

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Honolulu

1946 Young St. Suite 400A

Honolulu, HI 96826

Tel: 808-486-5227

**TestAmerica Job ID: HXC0036**

Client Project/Site: 60287037.02

Client Project Description: AECOM, WGSL STORMWATER

**For:**

TestAmerica Denver  
4955 Yarrow Street  
Arvada, CO 80002

Attn: Betsy Sara

Jimson Carr

*Authorized for release by:*

*4/2/2014 9:17:12 AM*

Jimson E. Carr, Service Center Manager

[Jimson.Carr@testamericainc.com](mailto:Jimson.Carr@testamericainc.com)

Designee for

Kristie Reilly, Project Manager

808-486-5227

[Kristie.Brachmann@testamericainc.com](mailto:Kristie.Brachmann@testamericainc.com)

### LINKS

Review your project  
results through

**Total Access**

Have a Question?

Ask  
The  
Expert

Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HXC0036

### Qualifiers

#### WetChem

Qualifier	Qualifier Description
H3	Sample was received and analyzed past holding time.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
D	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

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## Case Narrative

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HXC0036

**Job ID: HXC0036**

**Laboratory: TestAmerica Honolulu**

### Narrative

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory unless otherwise stated in the report. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. TestAmerica Analytical Testing Corporation certifies that the analytical results contained herein apply only to the specific sample(s) analyzed.

The Chain(s) of Custody are included and are an integral part of this report. This entire report was reviewed and approved for release.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-(808)486-5227

### LABORATORY REPORT

At sample receipt, the cooler/sample was 4.8 degrees C.

TestAmerica has determined that samples which require thermal preservation shall be considered acceptable if the arrival temperature is within 2 degrees C of the required temperature or the method specified range. For samples with a temperature requirement of 4 degrees C, an arrival temperature from 0 degrees C to 6 degrees C meets specifications. Samples that are delivered to the laboratory on the same day that they are collected may not meet these criteria. In these cases, the samples are considered acceptable if there is evidence that the chilling process has begun, such as arrival on ice.

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## Sample Summary

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HXC0036

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
HXC0036-01	280-52954-1 / DB01 E	Water - NonPotable	03/08/14 10:17	03/10/14 08:30

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TestAmerica Honolulu

## Detection Summary

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HXC0036

Client Sample ID: 280-52954-1 / DB01 E

Lab Sample ID: HXC0036-01

No Detections.

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This Detection Summary does not include radiochemical test results.

TestAmerica Honolulu

## Client Sample Results

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HXC0036

Client Sample ID: 280-52954-1 / DB01 E

Lab Sample ID: HXC0036-01

Date Collected: 03/08/14 10:17

Matrix: Water - NonPotable

Date Received: 03/10/14 08:30

### Method: SM5210B - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
BOD - 5 Day	ND	H3	2.00		mg/L		03/10/14 16:29	03/15/14 13:38	1.00

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## QC Sample Results

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HXC0036

### Method: SM5210B - General Chemistry Parameters

<b>Lab Sample ID:</b> 14C0011-BLK1	<b>Client Sample ID:</b> Method Blank <b>Prep Type:</b> Total <b>Prep Batch:</b> 14C0011_P										
<b>Matrix:</b> Water - NonPotable											
<b>Analysis Batch:</b> 14C0011											
Analyte	Blank	Blank	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
BOD - 5 Day			ND		2.00		mg/L		03/10/14 16:12	03/15/14 13:26	1.00
<b>Lab Sample ID:</b> 14C0011-BS1	<b>Client Sample ID:</b> Lab Control Sample <b>Prep Type:</b> Total <b>Prep Batch:</b> 14C0011_P										
<b>Matrix:</b> Water - NonPotable											
<b>Analysis Batch:</b> 14C0011											
Analyte	Spike	LCS	Result	LCS	Added	Qualifier	Unit	D	%Rec.	Limits	
BOD - 5 Day			198			198	mg/L		100	85 - 115	
<b>Lab Sample ID:</b> 14C0011-DUP1	<b>Client Sample ID:</b> Duplicate <b>Prep Type:</b> Total <b>Prep Batch:</b> 14C0011_P										
<b>Matrix:</b> Water - NonPotable											
<b>Analysis Batch:</b> 14C0011											
Analyte	Sample	Sample	Result	Qualifier	Duplicate	Duplicate	Unit	D	RPD	Limit	
BOD - 5 Day			3.13			2.55	mg/L		20	20	

TestAmerica Honolulu

## QC Association Summary

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HXC0036

### WetChem

#### Analysis Batch: 14C0011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
14C0011-BLK1	Method Blank	Total	Water - NonPotable	SM5210B	14C0011_P
14C0011-BS1	Lab Control Sample	Total	Water - NonPotable	SM5210B	14C0011_P
14C0011-DUP1	Duplicate	Total	Water - NonPotable	SM5210B	14C0011_P
HXC0036-01	280-52954-1 / DB01 E	Total	Water - NonPotable	SM5210B	14C0011_P

#### Prep Batch: 14C0011\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
14C0011-BLK1	Method Blank	Total	Water - NonPotable	Default Prep	Default Prep
14C0011-BS1	Lab Control Sample	Total	Water - NonPotable	GenChem	GenChem
14C0011-DUP1	Duplicate	Total	Water - NonPotable	Default Prep	Default Prep
HXC0036-01	280-52954-1 / DB01 E	Total	Water - NonPotable	GenChem	GenChem

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TestAmerica Honolulu

## Lab Chronicle

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HXC0036

**Client Sample ID: 280-52954-1 / DB01 E**

**Date Collected: 03/08/14 10:17**

**Date Received: 03/10/14 08:30**

**Lab Sample ID: HXC0036-01**

**Matrix: Water - NonPotable**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Default Prep		1.00	14C0011_P	03/10/14 16:29	KR	TAL HON
Total	Analysis	GenChem SMS210B		1.00	14C0011	03/15/14 13:38	KR	TAL HON

**Laboratory References:**

TAL HON = TestAmerica Honolulu, 1946 Young St. Suite 400A, Honolulu, HI 96826, TEL 808-486-5227

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TestAmerica Honolulu

## Certification Summary

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HXC0036

### Laboratory: TestAmerica Honolulu

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Hawaii	State Program	9	N/A	06-28-14
USDA	Federal		HON-S-206	01-31-15

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## Method Summary

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HXC0036

Method	Method Description	Protocol	Laboratory
SM5210B	General Chemistry Parameters		TAL HON

**Protocol References:**

**Laboratory References:**

TAL HON = TestAmerica Honolulu, 1946 Young St. Suite 400A, Honolulu, HI 96826, TEL 808-486-5227

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## **FIELD INFORMATION FORM**



WESL

**Sample Point:** **D B D F E**      Sample ID

**Sample ID**

This Waste Management Field Information Form is Required

This form is to be completed, in addition to any State forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers [i.e., with the cooler that is returned to the laboratory].

Laboratory Use Only/Lab ID:

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

03/03/14

Margie Thanh

---

**Signature**

Aēcom  
AECOM  
Company

**DISTRIBUTION:** WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

TestAmerica

Destination Laboratory Denver.

Destination Laboratory PM (if known) \_\_\_\_\_

## Drop Shipment Receipt Checklist

Client Name: AECOM Date/ Time Received: 3/10/14 8:30

Received By: KR

Matrices: AQ

Carrier: client

Airbill# :

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Chain of Custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of Custody Signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Cooler opened at TestAmerica Honolulu?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers matched to COC at TestAmerica Honolulu?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Any sample containers obviously broken/damaged upon receipt?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Sample containers on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Type: <u>wet.</u>
Custody seals present? If so, location? (Cooler, sample containers?)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Custody seals intact?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Water - VOA Vials have Zero Headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials present: <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Checked: <input checked="" type="checkbox"/>
pH Adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Final pH:
Encore / MI-VOC / 5035 Vials Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Sample Filtration Needed?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Filtered in Field: <input type="checkbox"/>
DODQSM / QAPP Project (if known)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Type: _____

Temperature Blank Present? Yes

No

KR

Sample Container Temperature: 4.8 °C

3/10/14

Samples drop shipped on ice? Yes  No  Type: \_\_\_\_\_

Date of drop shipment: \_\_\_\_\_

### Comments/ Sampling Handling Notes:

TA Honolulu retaining 1L poly unpros. for BOD analysis.



## **FIELD INFORMATION FORM**



Site Name:	W GSL			
Site No.:		Sample Point:	D 0011	Sample ID

This Waste Management Field Information Form is Required

This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (e.g. with the cooler that is returned to the laboratory).

Laboratory Use Only/10th ID

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign)

03, 03, 14

Margie Thach

03,08,14

*Doris Weber*

— 6 —

AECOM

~~RECOM~~

Consumers

DISTRIBUTION: WHITE/ORIGINAL - Stay with Samols; YELLOW - Returned to Client; PINK - Field Copy

## Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-52954-1

**Login Number: 52954**

**List Source: TestAmerica Denver**

**List Number: 1**

**Creator: O'Tormey, Stephanie R**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	FIELD LEFT BLANK
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

## Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-52954-1

**Login Number:** 52954

**List Source:** TestAmerica Irvine

**List Number:** 1

**List Creation:** 03/13/14 06:12 PM

**Creator:** King, Ronald

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	